

BEFORE YOU READ

1. Does the agriculture play an essential role in your country?

(The agricultural sector plays an important role in the food security and economic development of Vietnam)

2. It is said that climate change has some effects on Vietnam's agriculture (World Bank Group and Asian Development Bank, 2020). What effects do you think they are?

(Recently, Vietnam has experienced many extreme weather events, such as floods, storms, and droughts, that harm the agricultural sector and the nation's food security (Do et al., 2021))

READING

Read the text and answer the questions:

1. When does global warming occur?

2. What is the relationship between global warming and agriculture?

3. What impact is global warming having on agriculture?

4. What challenges related to global warming and agriculture do Asian countries, including Vietnam face?

5. What are strategies that can be used to mitigate the impacts of global warming on agriculture?

Global Warming and Agriculture

A. Global warming occurs when carbon dioxide (CO₂) and other air pollutants collect in the atmosphere and absorb sunlight and solar radiation. It is defined as a consistent rise in the Earth's average temperature and contributes to climate change. Global warming is having a significant impact on agriculture, as rising temperatures and changing rain patterns affect crop yields, soil quality, and water availability. This is a major concern for food security, as the world's population continues to grow and demand for food increases.

B. Agriculture, on the other hand, is both a cause and a victim of global warming. Agricultural practices, such as the use of fertilizers and the clearing of land for agriculture, are significant sources of greenhouse gas emissions (*). At the same time, the impacts of global warming on agriculture can reduce the ability of farmers to produce food, leading to food shortages and increased prices.

C. Many Asian countries, including Vietnam, where agriculture accounts for a large part of the economy, face numerous challenges related to global warming and agriculture. Some of these challenges include:

Decreased crop yields and food security: The changing climate patterns and extreme weather events associated with global warming can have a significant impact on crop yields, leading to food shortages and increased food prices.

Water scarcity: The increased frequency of droughts and reduced rainfall in many areas due to global warming can lead to water scarcity, which is a major challenge for agriculture.

Soil degradation: The increased frequency of floods and droughts can lead to soil degradation, reducing the productivity of the land and leading to erosion and other environmental problems.

Increased pest and disease outbreaks: The changing climate can lead to the spread of new pests and diseases, which can cause major damage to crops and affect food security.

Limited access to technology and information: the countries lack the resources and infrastructure to support the use of modern technologies and practices in agriculture, which are critical to adapting to global warming.

Economic impact: The impacts of global warming on agriculture can also have significant economic impacts, reducing the income of farmers and affecting the wider economy. For example, Vietnam's agricultural sector provides jobs for nearly half of the country's labour force. Vietnam is also an important contributor to the world's food security because it is a major exporter of rice, seafood, and coffee (UN 2021 Food Systems Summit, 2021)

D. There are a number of strategies that can be used to mitigate the impacts of global warming on agriculture. The first strategy is agroforestry, which involves integrating trees into agricultural systems. The second strategy can be low-carbon agriculture, which involves reducing greenhouse gas emissions from agriculture. And the third one is carbon sequestration, which involves storing carbon in the soil.

E. Understanding the impacts of global warming on agriculture will help both policymakers and farmers enhance agricultural performance. It is important for policy makers, farmers, and researchers to work together to develop and implement effective strategies for mitigating and adapting to the impacts of global warming on agriculture. This will help to ensure food security and sustainable agriculture in the face of global warming.

(*) Vocabulary:

Greenhouse gas (n): one of several gases, especially carbon dioxide, that prevent heat from the earth escaping into space, causing the greenhouse effect.

Emission (n): the act of sending out gas, heat, light, etc.

Fertilizer (n) a chemical substance that is spread on land or soil to make plants grow better.

VOCABULARY

A. Word search

Find words or phrases in the article which fit these meanings.

1. Changes in world's weather, particularly an increase in temperature, caused by carbon dioxide in the atmosphere (paragraph A) _____
2. An action that has an important consequence (paragraph A) _____
3. There is not enough of food (paragraph B) _____
4. Main difficult task (paragraph C) _____
5. An insect that destroys plants or food (paragraph C) _____
6. Plans of action or policy designed to achieve a goal (paragraph D) _____
7. Practices where trees are combined with farming (paragraph D) _____

Climate change (paragraph A)

Significant impact (paragraph A)

food shortages (B)

major challenge (C)

Pest (paragraph C)
Strategies (paragraph D)
Agroforestry (paragraph D)

B. Word partnerships

Match these words to make noun-noun partnerships or adjective-noun collocations from the article.

- | | |
|----------------|----------------|
| 1. Air | a. degradation |
| 2. Food | b. impact |
| 3. Soil | c. agriculture |
| 4. Economic | d. pollutants |
| 5. Sustainable | e. security |

- 1d. Air pollutants
2e. Food security
3a. Soil degradation
4b. Economic impact
5c. Sustainable agriculture

C. Understanding expressions

Choose the best explanation for each phrase from the article.

1. ‘...a major concern for food security’ (paragraph A)
a) an important issue for food security
b) a main idea about food security
2. ‘...both a cause and a victim of global warming’ (paragraph B)
a) can contribute to and be damaged by global warming at the same time
b) both a reason and an effect
3. ‘...agriculture accounts for a large part of the economy’ (paragraph C)
a) agriculture is as important as economy
b) agriculture plays an important role in economy

a, a, b

D. Complete these sentences with appropriate words or phrases

1. Global warming _____ a significant impact on agriculture.
2. Agricultural practices, _____ the use of fertilizers and the clearing of land for agriculture, are significant sources of greenhouse gas emissions
3. The strategy can be low-carbon agriculture, _____ involves reducing greenhouse gas emissions from agriculture.

1. is having
2. such as
3. which

DISCUSSION

After reading the text, do you like to do research to understand more about the effects of global warming on agriculture?

WRITING

Do you agree with the author's view that 'the impacts of global warming on agriculture can reduce the ability of farmers to produce food, leading to food shortages and increased prices'? Write a short report making the case for or against this view. Include practical examples to support your point.